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Sir:

Transmitted herewith for filing is the patent application of

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For: IMAGE DOWN-LOADING APPARATUS AND SYSTEM, AND IMAGE DOWN-
LOADING METHOD

Enclosed are:

[X] 20 page(s) of specification, 1 page(s) of Abstract, 17 page(s) of claims

[X] 10 sheets of drawing [X] formal [] informal

[X] 6 Page(s) of Declaration and Power of Attorney

[] Unsigned

[X] Newly Executed

[] Copy from prior application

[] Deletion of inventors including Signed Statement under 37 C.F.R. § 1.63(d)(2)

[] Incorporation by Reference: The entire disclosure of the prior application, from which a copy of the combined declaration and power of attorney is supplied herein, is considered as being part of the disclosure of the accompanying application and is incorporated herein by reference.

[] Microfiche Computer Program (Appendix)

[] _____ page(s) of Sequence Listing

[] computer readable disk containing Sequence Listing

[] Statement under 37 C.F.R. § 1.821(f) that computer and paper copies of the Sequence Listing are the same

[X] Claim for Priority Japanese Patent Application Nos. 9-326272 and 10-316578 filed 11/27/97 and 11/6/98

- ☐ Certified copy of Priority Document(s)
- ☐ English translation documents
- ☐ Information Disclosure Statement
- ☐ Copy of ___ cited references w/ English Abstracts
- ☐ Copy of PTO-1449 filed in parent application serial No. _____
- ☐ Preliminary Amendment
- ☒ Return receipt postcard (MPEP 503)
- ☒ Assignment Papers (assignment cover sheet and assignment documents)
- ☒ A check in the amount of \$40.00 for recording the Assignment.
- ☐ Assignment papers filed in parent application Serial No. _____.
- ☐ Certification of chain of title pursuant to 37 C.F.R. § 3.73(b).
- ☐ This is a ☐ continuation ☐ divisional ☐ continuation-in-part (C-I-P) of prior application serial no. _____.
- ☐ Cancel in this application original claims _____ of the parent application before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)
- ☐ A preliminary Amendment is enclosed. (Claims added by this Amendment have been properly numbered consecutively beginning with the number following the highest numbered original claim in the prior application.
- ☐ The status of the parent application is as follows:
- ☐ A Petition For Extension of Time and a Fee therefor has been or is being filed in the parent application to extend the term for action in the parent application until _____.
- ☐ A copy of the Petition for Extension of Time in the co-pending parent application is attached.
- ☐ No Petition For Extension of Time and Fee therefor are necessary in the co-pending parent application.
- ☐ Please abandon the parent application at a time while the parent application is pending or at a time when the petition for extension of time in that application is granted and while this application is pending has been granted a filing date, so as to make this application co-pending.
- ☐ Transfer the drawing(s) from the patent application to this application.
- ☐ Amend the specification by inserting before the first line the sentence:
This is a ☐ continuation ☐ divisional ☐ continuation-in-part of co-pending application Serial No. _____ filed _____.

I. CALCULATION OF APPLICATION FEE (For Other Than A Small Entity)

	Number Filed		Number Extra	Rate	Basic Fee
Total Claims	50	-20=	30	x\$18.00	\$ 760.00
Independent Claims	4	-3=	1	x78.00	\$ 78.00
Multiple Dependent Claims					
	<input type="checkbox"/> yes		Additional Fee =	\$260.00	\$0
	<input type="checkbox"/> no		Add'l Fee =	NONE	

Total: \$1,378.00

- ☐ A statement claiming small entity status is attached or has been filed in the above-identified parent application and its benefit under 37 C.F.R. § 1.28(a) is hereby claimed. Reduced fees under 37 C.F.R. § 1.9(F) (50% of total) paid herewith \$ _____.
- ☒ A check in the amount of \$ 1,378.00 for payment of the application filing fees is attached.
- ☐ Charge Fee(s) to Deposit Account No. 13-4500. Order No. _____. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.
- ☒ The Assistant Commissioner is hereby authorized to charge any additional fees which may be required for filing this application, or credit any overpayment to Deposit Account No. 13-4500, Order No. 1232-4480. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

Respectfully submitted,

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By: 

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TITLE OF THE INVENTION

IMAGE DOWN-LOADING APPARATUS AND SYSTEM, AND IMAGE DOWN-
LOADING METHOD

5

BACKGROUND OF THE INVENTION

The present invention relates to an image down-
loading apparatus and system, and image down-loading
10 method for down-loading a moving image, such as a live
image, to a terminal or terminals connected to a
computer network via the computer network.

Conventionally, an image down-loading system for
providing a live image to unspecified or specified
15 viewers (computers) via computer networks, such as an
intranet and the Internet is known. For example, a live
image may be down-loaded as it is embedded in a home
page or as a part of a home page of the world wide web
(WWW), and the down-loaded image is displayed on a
20 display screen of a client device.

Consider a common computer network as shown in Fig.
9; an Internet terminal 10 accesses a WWW server 14 via
the Internet 12, further accesses a video camera 16
linked to a home page of the WWW server 14, and requests
25 an image sensed by the camera 16. The image sensed by
the camera 16 is displayed in a browser of the terminal

10 using a plug-in, a helper-application, or a server-push technique.

It is advantageous for an image-providing-party to display advertisement of the party together with the
5 live image as shown in Fig. 10A; however, it is possible for the terminal 10 to obtain only the image sensed by the camera 16. Moreover, it is possible to display advertisement of a third party instead of the original advertisement along with the image as shown in Fig. 10B.
10 In other words, there is a fear that the image sensed by the camera 16 is plagiarized.

SUMMARY OF THE INVENTION

15 The present invention has been made in consideration of the above situation, and has as its object to provide an image down-loading apparatus and system, and image down-loading method capable of preventing a moving image, such as a live image, from
20 being plagiarized.

According to the present invention, the foregoing object is attained by providing an image down-loading apparatus capable of down-loading an image to a plurality of clients via a network, comprising: first
25 output means for outputting an image; second output means for outputting information which is independent of

the image outputted by the first output means; a switch for switching between the first output means and the second output means; and a switch controller for controlling the switch, wherein the switch controller
5 controls the switch so as to select the second output means for a first predetermined period after the first output means is selected for a second predetermined period.

Further, the foregoing object is also attained by
10 providing an image down-loading system capable of down-loading an image to a plurality of clients via a network, comprising: first down-loading means for down-loading an image; second down-loading means for down-loading information which is independent of the image down-
15 loaded by the first down-loading means; a switch for switching between the first down-loading means and the second down-loading means; and a switch controller for controlling the switch, wherein the switch controller controls the switch so as to select the second down-
20 loading means for a first predetermined period after the first down-loading means is selected for a second predetermined period.

Furthermore, the foregoing object is also attained by providing an image down-loading method capable of
25 down-loading an image to a plurality of clients via a network, comprising: a first down-loading step of down-

loading an image; a second down-loading step of down-loading information which is independent of the image down-loaded in the first down-loading step; a first switching step of switching from the first down-loading
5 step to the second down-loading step after a first predetermined period has elapsed; and a second switching step of switching from the second down-loading step to the first down-loading step after a second predetermined period has elapsed.

10 Other features and advantages of the present invention will be apparent from the following description taken in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the figures thereof.

15
BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of the specification,
20 illustrate embodiments of the invention and, together with the description, serve to explain the principles of the invention.

Fig. 1 is a drawing showing a brief configuration of an image down-loading system according to a first
25 embodiment of the present invention;

Fig. 2 is a block diagram illustrating a configuration of an image down-loading system according to the first embodiment of the present invention;

Fig. 3 shows an example of an image displayed on a display screen of a client device having authorization to control camera;

Fig. 4 shows an example of a display screen of the client device when advertisement is displayed;

Fig. 5 is a flowchart for explaining an operation of a web server according to the first embodiment of the present invention;

Fig. 6 is a flowchart for explaining another operation of the web server according to the first embodiment of the present invention;

Fig. 7 is a flowchart for explaining an operation of a web server according to a second embodiment of the present invention;

Fig. 8 is a flowchart for explaining another operation of the web server according to the second embodiment of the present invention;

Fig. 9 is a schematic view showing a configuration of the conventional image down-loading system; and

Figs. 10A and 10B are examples of images conventionally displayed on a display screen.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Preferred embodiments of the present invention will be described in detail in accordance with the accompanying drawings.

5

<First Embodiment>

Fig. 1 is a schematic view showing a brief configuration of an image down-loading system according to a first embodiment of the present invention. In Fig. 10 1, reference numeral 20 denotes a camera for sensing an object; 22, an image server for transmitting image information, such as advertisement; 24, a switch for switching between an output from the camera 20 and an output from the image server 22; 26, a web server; 28, a 15 network; and 30, an Internet terminal (e.g., personal computer).

The Internet terminal 30 accesses a home page of the web server 26 via the network 28 and selecting the camera 20 in the home page. With the foregoing operation, 20 the terminal 30 requests the web server 26 to send an image sensed by the camera 20 and receives the image. This operation is the same as the conventional operation; however, in the first embodiment, the switch 24 switches from the image outputted from the camera 20 25 to information from the image server 22 for a predetermined period at predetermined intervals. For

instance, the switch 24 selects an image from the camera 20 for 55 seconds, then selects image information from the image server 22 for the next 5 seconds while transmitting the images over the network 28.

5 Next, an operation of the web server 26 will be explained with reference to a flowchart shown in Fig. 5.

First in step S10, the web server 26 waits a request for an image from the terminal 30. When an image is requested, the web server 26 controls the switch 24
10 to select the output from the camera 20 to start providing an image sensed by the camera 20 as well as resets and starts an internal timer in step S11. Then in step S12, the web server 26 waits until a predetermined period (in the above example, 55 seconds) elapses while
15 down-loading the image. After the predetermined period elapses, then in step S13, the web server 26 controls the switch 24 to select the output from the image server 22 to start down-loading information stored in the image server 22, as well as resets and starts the internal
20 timer. In step S14, the web server 26 waits until a predetermined period (in the above example, 5 seconds) elapses while down-loading the information, and after the predetermined period elapses, the process proceeds to step S15. In step S15, whether or not the
25 communication is disconnected is determined, and if yes,

the process is completed; whereas if not, the process returns to step S11 and steps S11 to S15 are repeated.

Information provided from the image server 22 may be advertisement, for instance. The content of the
5 information transmitted from the image server 22 may be changed for each transmission, e.g., every 1 minute in the above example. It is also possible for the image server 22 to store an image sensed by the camera 20 and transmitted via the switch 24.

10 Further, it is possible to make advertisement, down-loaded from the image server 22 at the first opportunity in the communication, be stored in the terminal 30, and subsequently, to control the terminal
15 30 to display the advertisement stored in the terminal 30 while the information from the image server 22 is to be down-loaded. In this manner, it is possible to reduce a traffic of the network 28.

It takes several seconds from the terminal 30 accesses of the camera 20 (and the image server 22)
20 until the first image is provided. Accordingly, it is possible to cause the terminal 30 to display advertisement down-loaded in the last communication during this period.

A user capable of using the Internet, for free or
25 at a very low charge, tends to be connected or maintain transmission traffic. This often results in an

unnecessary increase in traffic and additional load on a server. To cope with the problem, there is a method of disconnecting the connection or releasing the transmission traffic after a predetermined period has elapsed. In this case, it is also possible to cause the terminal 30 to display the advertisement down-loaded in the last communication after the disconnection.

Fig. 2 is a block diagram illustrating a configuration of an image down-loading system according to the first embodiment of the present invention. In Fig. 2, reference numeral 40 denotes a camera server; and 42a, 42b, and 42c, client devices (simply referred to as "client" hereinafter) capable of remote-controlling the camera server 40 via a network 44.

The camera server 40 has a CPU 46, main memory 48, secondary storage device 50, a network interface 52, a video camera 54, a camera controller 56 for controlling the camera 54, a timer 58, and a video capture 60 for capturing an image signal outputted from the video camera 46. The camera controller 56 control the image sensing direction (i.e., panning and tilting) and magnification ratio (i.e., zooming) of the camera 54. The secondary storage device 50 stores a control program executed by the CPU 46, image information of advertisement which is inserted between images sensed by the camera 54, and so on. Namely, the secondary storage

device 50 corresponds to the image server 22 in Fig. 1.
The CPU 46 switches between an image sensed by the
camera 54 and an image of advertisement stored in the
secondary storage device 50 at predetermined intervals
5 by referring to the timer 58. Namely, the CPU 46
functions as the switch 24 in Fig. 1.

The video capture 60 receives a signal conforming
to the NTSC (National Television System Committee)
standard from the camera 54, performs analog/digital
10 conversion on the signal, compresses the signal, then
provides it to the network interface 52. As for the
image compression method, there are motion JPEG (Joint
Photographic Experts Group), and MPEG (Moving Picture
Image Coding Experts Group) methods; however, the method
15 is not limited to these in the present invention.

The CPU 46 of the camera server 40 captures an
image signal outputted from the camera 54 using the
video capture 60, and down-loads it to the client 42a,
42b, or 42c, which requested the image, via the network
20 44. Further, when the CPU 46 accepts a camera control
command from the client 42a, 42b, or 42c authorized to
control the camera 54 (camera control authorization), it
controls the camera 54 using the camera controller 56.

In Fig. 2, an internal configuration of the client
25 42a is shown, and the clients 42b and 42c have the same
configuration as the client 42a. More specifically, each

of the clients 42a, 42b, and 42c has a CPU 62, main
memory 64, a secondary storage device 66, a bitmap
display 68, an input device 70, such as a keyboard and
mouse, and a network interface 72. The clients 42a, 42b,
5 and 42c respectively request the camera server 40 to
transmit an image, receive compressed image data,
expands the compressed image data, and displays the
image on the bitmap display 68.

Further, when any of the clients 42a, 42b, and 42c
10 outputs a request for camera control authorization to
the camera server 40, and receives the authorization, it
is possible for the authorized client to remote-control
the camera 54. Note that the camera control
authorization is administrated so that only one client
- 15 42a, 42b, or 42c can have the authorization at a time.
On the display screen of the client 42a, 42b, or 42c
which obtained the camera control authorization, control
buttons 74 for controlling panning, tilting, and zooming
of the camera 54 are displayed along with an image, as
20 shown in Fig. 3. The client 42a, 42b, or 42c having the
camera control authorization can remote-control the
camera 54 by operating the buttons 74.

According to the first embodiment as described
above, advertisement is displayed between images sensed
25 by the camera 54 at predetermined intervals. In such a
case, the period of the advertisement may be too long or

too short depending upon a user. Accordingly, it is preferable to configure the system so that the period for down-loading the advertisement is set long in default, and the user can switch to an image sensed by the camera 54 after the advertisement is down-loaded, after a predetermined period. To realize this configuration, a switch button 76 is provided along with advertisement image, as shown in Fig. 4. The switch button 76 is activated after a predetermined time has elapsed since the advertisement started displayed. When the user operates the activated switch button 76, the client 42a, 42b, or 42c outputs a request to the camera server 40 to transmit an image sensed by the camera 54. In response to the request, the camera server 40 down-loads an image sensed by the camera 54 via the network 44 instead of the advertisement stored in the secondary storage device 50.

Fig. 6 is a flowchart showing a processing sequence of the aforesaid operation performed by the web server 26 (or the camera server 40). Note, in Fig. 6, the same processes as those in Fig. 5 are referred to by the same step numbers, and explanations of those are omitted. Fig. 6 differs from Fig. 5 in the processes subsequent to step S13 in which information (e.g., advertisement) from the image server 22 starts down-loaded.

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In step S13, the down-loading of advertisement starts and the timer 40 is reset and started, then the process proceeds to step S21. In step S21, whether or not a predetermined period has passed is determined, and
5 after the predetermined period has elapsed, the process proceeds to step S22. In step S22, whether a request, designated by operating the switch button 76, for an image sensed by the camera 20 from the terminal 30 (client 42a, 42b, or 42c) is received or not is
10 determined. If yes, then the process returns to step S11, and the image sensed by the camera 20 starts to down-load to the terminal 30.

Whereas, if no request is received in step S22, then the process proceeds to step S14 and whether or not
15 a predetermined period has elapsed or not is determined. Note that, since the predetermined period to be determined in step S14 includes the predetermined period determined in step S21, the period to be determined in step S14 is longer than the period determined in step
20 S21. If the predetermined period has not elapsed, the process returns to step S22, and the process of checking whether or not a request for down-loading the image sensed by the camera 20 is received is repeated until the predetermined period elapses.

25 After the predetermined period has passed in step S14, then the process proceeds to step S15, and if the

communication line is disconnected, the process is completed, whereas if still connected, then steps S11 to S15 are repeated.

Note, when a plurality of terminals, e.g., the clients 42a, 42b, and 42c, access the web server 26 (camera server 40), they usually access the server 26 (40) at different times. Therefore, in a case of downloading an image sensed by the camera 20 while inserting advertisement in the aforesaid manner, the switching between the camera image and the advertisement is performed at different times, since the time when the camera server 40 starts down-loading the image from the camera 20 differs from one client to another.

In the first embodiment as described above, an image sensed by the camera 20 and information, such as advertisement, from the image server 22 are alternatively down-loaded; however, the present invention is not limited to this. For instance, it is possible to provide a recorded moving image by reading out the image instead of a live image, and an image or information, such as characters, which is independent of the moving image may be inserted instead of advertisement while providing the moving image. In short, information which is independent of a moving image is inserted into the moving image so that the moving image can not be plagiarized.

According to the embodiment as described above,
since information other than a moving image, such as a
live image, is inserted into the moving image while
down-loading the moving image; therefore, it is possible
5 to prevent the moving image from being plagiarized.

<Second Embodiment>

The second embodiment is described below.

An image down-loading system according to the
10 second embodiment is the same as that described in the
first embodiment with reference to Figs. 1 and 2; thus
explanation of it is omitted.

In the first embodiment, an image sensed by the
camera 20 and information, such as advertisement, from
15 the image server 22 are alternately down-loaded at
predetermined intervals. However, there is a case where
a client which belongs to the same party providing the
image sensed by the camera 20 requests the image, for
instance, and in such a case, it is not necessary to
20 down-load the advertisement.

Accordingly, in the second embodiment, the camera
server 40 (web server 26) registers information (e.g.,
client ID) of a client or clients to which an image
sensed by the camera 54 (20) should be provided while
25 inserting advertisement for a shorter period, comparing
to the first embodiment, or without advertisement, in

the main memory 48 or the secondary storage device 50 and makes a list of the registered clients, and alters the period to down-load the advertisement depending upon the client.

5 An operation of the camera server 40, or the web server 26, according to the second embodiment is explained with reference to a flowchart in Fig. 7. In the following explanation, an image sensed by the camera 54, or 20, is referred to as "image", and information
10 provided from the image server 22 is referred to as "advertisement".

First, the camera server 40 waits for a request for an image from a client in step S30. When a request is received, the process proceeds to step S31 and the
15 camera server 40 checks the client ID of the client requesting the image, and determines whether or not the client ID is on the list or not. If the client ID is on the list (YES in step S31), then the process proceeds to step S32 and the period for down-loading an image is set
20 to t1, further, in step S34, the period for transferring advertisement is set to t3. If the client ID is not on the list (NO in step S31), then the process proceeds to step S33 and the period for transferring an image is set to t2, further, in step S35, the period for transferring
25 advertisement is set to t4. Here, t3 is set shorter than t4, thereby it is possible to shorten the period for

down-loading the advertisement if the client ID is on
the list. Note, the periods t1 and t2 may be set to the
same, or the period t1 may be set longer than the period
t2. In the latter case, it is possible to down-load the
5 image for a longer period to the registered client than
to the non-registered client.

In the flowchart in Fig. 7, a method for shortening
the period for down-loading advertisement to a
registered client is described; however, as shown in Fig.
10 8, it is possible to control to down-load only an image
to the registered client in the loop of steps S41 and
S42, and to perform the processes subsequent to steps
S11 if the client is not registered. Note, the steps S11
to S15 are the same as those explained with reference to
15 Fig. 5; therefore, explanation of them are omitted.

To register a client ID in the camera server 40, a
client sends a request for registration to the camera
server 40, and the camera server 40 registers the client
ID in response to the request. The camera server 40 may
20 determine whether to permit the registration of the
client or not in accordance with a predetermined rule or
rules, and register the client ID when the camera server
40 permits the registration. In this case, it is
possible to control the registration of a client or
25 clients connected to a predetermined network, or use a
password, for instance.

Further, an administrator of the camera server 40 may manually register a client ID.

In the case of using a password, instead of registering client IDs in the camera server 40, the camera server 40 inquires for a password to a client, and when the correct password is entered, the camera server 40 may control to shorten or eliminate the period for down-loading advertisement.

Further, it is possible to control the down-loading of the image and advertisement by further distinguishing between a client to which a period of advertisement is to be shortened and a client to which only an image is down-loaded without advertisement.

In the second embodiment as described above, an image sensed by the camera 20 (54) and information, such as advertisement, from the image server 22 are alternatively down-loaded; however, the present invention is not limited to this. For instance, it is possible to provide a recorded moving image by reading out the image instead of a live image, and an image or information, such as characters, which is independent of the moving image may be inserted instead of advertisement while providing the moving image. In short, information which is independent of a moving image is inserted into the moving image so that the moving image can not be plagiarized. Further, it is possible to

shorten or even eliminate the period for down-loading the information inserted into the moving image when down-loading the moving image to a registered client.

As described above with reference to Fig. 2, the object of the present invention can be achieved by providing a storage medium storing program codes for performing the aforesaid processes to a computer system or apparatus (e.g., a personal computer), reading the program codes, by a CPU or MPU of the computer system or apparatus, from the storage medium, then executing the program.

In this case, the program codes read from the storage medium realize the functions according to the embodiments, and the storage medium storing the program codes constitutes the invention.

Further, the storage medium, such as a floppy disk, a hard disk, an optical disk, a magneto-optical disk, CD-ROM, CD-R, a magnetic tape, a non-volatile type memory card, and ROM can be used for providing the program codes.

Furthermore, besides aforesaid functions according to the above embodiments are realized by executing the program codes which are read by a computer, the present invention includes a case where an OS (operating system) or the like working on the computer performs a part or entire processes in accordance with designations of the

program codes and realizes functions according to the above embodiments.

Furthermore, the present invention also includes a case where, after the program codes read from the
5 storage medium are written in a function expansion card which is inserted into the computer or in memory provided in a function expansion unit which is connected to the computer, CPU or the like contained in the function expansion card or unit performs a part or
10 entire process in accordance with designations of the program codes and realizes functions of the above embodiments.

In a case where the present invention is applied to the aforesaid storage medium, the storage medium stores
15 program codes corresponding to the flowcharts described in the embodiments.

The present invention is not limited to the above embodiments and various changes and modifications can be made within the spirit and scope of the present
20 invention. Therefore to apprise the public of the scope of the present invention, the following claims are made.

What Is Claimed Is:

1. An image down-loading apparatus capable of down-loading an image to a plurality of clients via a network, comprising:
- first output means for outputting an image;
- second output means for outputting information which is independent of the image outputted by said first output means;
- a switch for switching between said first output means and said second output means; and
- a switch controller for controlling said switch, wherein said switch controller controls said switch so as to select said second output means for a first predetermined period after said first output means is selected for a second predetermined period.
2. The image down-loading apparatus according to claim 1, wherein, when a request for down-loading of the image to be outputted by said first output means is received while said second output means is selected after a third predetermined period has elapsed since said switch switched from said first output means to said second output means, said switch controller controls said switch so as to switch from said second output means to said first output means.

3. The image down-loading apparatus according to claim 1, wherein the clients are classified into a plurality of groups, and the image down-loading apparatus further comprises discrimination means for discriminating a group to which a client belongs, wherein said switch controller control said switch so as to make the first predetermined period shorter for a client which belongs to a first group than for a client which belongs to a second group.

4. The image down-loading apparatus according to claim 3, further comprising memory for storing information on clients,

15 wherein said discrimination means discriminates a client as belonging to the first group when the information on the client is stored in said memory, and discriminates a client as belonging to the second group when the information on the client is not stored in said

20 memory.

5. The image down-loading apparatus according to claim 3, wherein said discrimination means discriminates a client as belonging to the first group when the client enters a correct password, and discriminates a client as belonging to the second group otherwise.

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6. The image down-loading apparatus according to claim 1, wherein the clients are classified into a plurality of groups, and the image down-loading apparatus further comprises discrimination means for discriminating a group to which a client belongs, wherein said switch controller control said switch so as to keep selecting said first output means for a client which belongs to a first group.

10

7. The image down-loading apparatus according to claim 6, further comprising memory for storing information on clients,

wherein said discrimination means discriminates a client as belonging to the first group when the information on the client is stored in said memory, and discriminates a client as belonging to a second group when the information on the client is not stored in said memory.

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8. The image down-loading apparatus according to claim 6, wherein said discrimination means discriminates a client as belonging to the first group when the client enters a correct password, and discriminates a client as belonging to the second group otherwise.

25

9. The image down-loading apparatus according to claim 1, wherein the clients are classified into a plurality of groups, and the image down-loading apparatus further comprises discrimination means for discriminating a group to which a client belongs,

wherein said switch controller control said switch so as to keep selecting said first output means for a client which belongs to a first group, and to make the first predetermined period shorter for a client which belongs to a second group than for a client which belongs to a third group.

10. The image down-loading apparatus according to claim 1, wherein the image outputted by said first output means is a moving image.

11. The image down-loading apparatus according to claim 10, wherein the image outputted by said first output means is an image being sensed by a video camera.

12. The image down-loading apparatus according to claim 1, further comprising memory for storing information,

wherein the information to be outputted by said second output means is the information stored in said memory.

13. An image down-loading system capable of down-loading an image to a plurality of clients via a network, comprising:

5 first down-loading means for down-loading an image;
second down-loading means for down-loading information which is independent of the image down-loaded by said first down-loading means;

10 a switch for switching between said first down-loading means and said second down-loading means; and

a switch controller for controlling said switch, wherein said switch controller controls said switch so as to select said second down-loading means for a first predetermined period after said first down-loading
15 means is selected for a second predetermined period.

14. The image down-loading system according to claim 13, wherein the clients have memory for storing the information down-loaded by said second down-loading
20 means, and while said switch selects said second down-loading means, the clients display the information stored in said memory.

15. The image down-loading system according to claim 13, wherein the clients have memory for storing the information down-loaded by said second down-loading

means, and since a communication path is established on the network until the image to be down-loaded by said first down-loading means start down-loaded, the clients display the information stored in said memory.

5

16. The image down-loading system according to claim 13, wherein the clients have memory for storing the information down-loaded by said second down-loading means, and after a communication path on the network is disconnected, the clients display the information stored in said memory.

17. The image down-loading system according to claim 13, wherein, when a request for down-loading of the image to be down-loaded by said first down-loading means is received while said second down-loading means is selected after a third predetermined period has elapsed since said switch switched from said first down-loading means to said second down-loading means, said switch controller controls said switch so as to switch from said second down-loading means to said first down-loading means.

18. The image down-loading system according to claim 13, wherein the clients are classified into a plurality of groups, and the image down-loading system

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further comprises discrimination means for
discriminating a group to which a client belongs,

wherein said switch controller control said switch
so as to make the first predetermined period shorter for
5 a client which belongs to a first group than for a
client which belongs to a second group.

19. The image down-loading system according to
claim 18, further comprising memory for storing
10 information on clients,

wherein said discrimination means discriminates a
client as belonging to the first group when the
information on the client is stored in said memory, and
discriminates a client as belonging to the second group
15 when the information on the client is not stored in said
memory.

20. The image down-loading system according to
claim 18, wherein said discrimination means
20 discriminates a client as belonging to the first group
when the client enters a correct password, and
discriminates a client as belonging to the second group
otherwise.

25 21. The image down-loading system according to
claim 13, wherein the clients are classified into a

plurality of groups, and the image down-loading system further comprises discrimination means for discriminating a group to which a client belongs,

wherein said switch controller control said switch so as to keep selecting said first down-loading means for a client which belongs to a first group.

22. The image down-loading system according to claim 21, further comprising memory for storing information on clients,

wherein said discrimination means discriminates a client as belonging to the first group when the information on the client is stored in said memory, and discriminates a client as belonging to a second group when the information on the client is not stored in said memory.

23. The image down-loading system according to claim 21, wherein said discrimination means discriminates a client as belonging to the first group when the client enters a correct password, and discriminates a client as belonging to the second group otherwise.

24. The image down-loading system according to claim 13, wherein the clients are classified into a

plurality of groups, and the image down-loading system further comprises discrimination means for discriminating a group to which a client belongs,

wherein said switch controller control said switch so as to keep selecting said first down-loading means for a client which belongs to a first group, and to make the first predetermined period shorter for a client which belongs to a second group than for a client which belongs to a third group.

25. The image down-loading system according to claim 13, wherein the image down-loaded by said first down-loading means is a moving image.

26. The image down-loading system according to claim 25, wherein the image down-loaded by said first down-loading means is an image being sensed by a video camera.

27. The image down-loading system according to claim 13, further comprising memory for storing information,

wherein the information to be down-loaded by said second down-loading means is the information stored in said memory.

28. An image down-loading method capable of down-loading an image to a plurality of clients via a network, comprising:

5 a first down-loading step of down-loading an image;
a second down-loading step of down-loading information which is independent of the image down-loaded in said first down-loading step;

10 a first switching step of switching from said first down-loading step to said second down-loading step after a first predetermined period has elapsed; and

a second switching step of switching from said second down-loading step to said first down-loading step after a second predetermined period has elapsed.

15 29. The image down-loading method according to claim 28, further comprising:

a step of causing a client to store said information down-loaded in said second down-loading step; and

20 a step of causing the client to display the stored information for a period corresponding to said second down-loading step.

25 30. The image down-loading method according to claim 28, further comprising:

a step of causing a client to store the information
down-loaded in said second down-loading step; and

a step of displaying the stored information for a
period since a communication path is established on the
5 network until the image to be down-loaded in said first
down-loading step starts down-loaded.

31. The image down-loading method according to
claim 28, further comprising:

10 a step of causing a client to store the information
down-loaded in said second down-loading step; and

a step of displaying the stored information after a
communication path on the network is disconnected.

15 32. The image down-loading method according to
claim 28, further comprising:

a determination step of determining whether or not
a request for down-loading of the image to be down-
loaded in said first down-loading step is received
20 during said second down-loading step after a third
predetermined period has elapsed since said first
switching step; and

a third switching step of switching from said
second down-loading step to said first down-loading step
25 when it is determined that the request is received.

33. The image down-loading method according to
claim 28, wherein the clients are classified into a
plurality of groups, and the method further comprises a
discrimination step of discriminating a group to which a
5 client belongs,

wherein the second predetermined period is shorter
for a client which belongs to a first group than for a
client which belongs to a second group.

34. The image down-loading method according to
claim 33, wherein, in said discrimination step, whether
or not a client is a registered client, and the
registered client is discriminated to belong to the
first group and a non-registered client is discriminated
15 to belong to the second group.

35. The image down-loading method according to
claim 33, wherein, in said discrimination step, a client
entered a correct password is discriminated to belong to
20 the first group, and other clients are discriminated to
belong to the second group.

36. The image down-loading method according to
claim 28, wherein the clients are classified into a
25 plurality of groups, and the method further comprises a

discrimination step of discriminating a group to which a client belongs,

wherein said first switching step is disabled for a client which belongs to a first group.

5

37. The image down-loading method according to claim 36, wherein, in said discrimination step, whether or not a client is a registered client, and the registered client is discriminated to belong to the first group and a non-registered client is discriminated to belong to the second group.

38. The image down-loading method according to claim 36, wherein, in said discrimination step, a client entered a correct password is discriminated to belong to the first group, and other clients are discriminated to belong to the second group.

39. The image down-loading method according to claim 28, wherein the clients are classified into a plurality of groups, and the method further comprises a discrimination step of discriminating a group to which a client belongs,

wherein said first switching step is disabled for a client which belongs to a first group, and the second predetermined period is shorter for a client which

belongs to a second group than for a client which
belongs to a third group.

40. The image down-loading method according to
5 claim 28, wherein the image down-loaded in said first
down-loading step is a moving image.

41. The image down-loading method according to
claim 40, wherein the image down-loaded in said first
10 down-loading step is an image being sensed by a video
camera.

42. The image down-loading method according to
claim 28, wherein, in said second down-loading step,
15 information stored in memory in advance is down-loaded.

43. A computer program product comprising a
computer usable medium having computer readable program
code means embodied in said medium for down-loading an
20 image to a plurality of clients via a network, said
product including:

first computer readable program code means for
down-loading an image;

second computer readable program code means for
25 down-loading information which is independent of the
image;

third computer readable program code means for
switching from said first computer readable program code
means to said second computer readable program code
means after a first predetermined period has elapsed;

5 and

fourth computer readable program code means for
switching from said computer readable program code means
to said first computer readable program code means after
a second predetermined period has elapsed.

10

44. The computer program product according to
claim 43, further comprising:

fifth computer readable program code means for
causing a client to store the information; and

15

sixth computer readable program code means for
causing the client to display the stored information for
a period corresponding said second computer readable
program code means is to be activated.

20

45. The computer program product according to
claim 43, further comprising:

seventh computer readable program code means for
causing a client to store the information; and

25 eighth computer readable program code means for
displaying the stored information for a period since a

communication path is established on the network until the image starts down-loaded.

46. The computer program product according to
5 claim 43, further comprising:

ninth computer readable program code means for causing a client to store the information; and

tenth computer readable program code means for displaying the stored information after a communication
10 path on the network is disconnected.

47. The computer program product according to claim 43, further comprising:

eleven computer readable program code means for
15 determining whether or not a request for down-loading of the image is received during said second computer readable program code means is active after a third predetermined period has elapsed since said third computer readable program code means is activated; and

20 twelve computer readable program code means for switching from said second computer readable program code means to said first computer readable program code means when it is determined that the request is received.

25 48. The computer program product according to claim 43, wherein the clients are classified into a

plurality of groups, and the product further comprises thirteen computer readable program code means for discriminating a group to which a client belongs,

wherein the second predetermined period is shorter
5 for a client which belongs to a first group than for a client which belongs to a second group.

49. The computer program product according to claim 43, wherein the clients are classified into a
10 plurality of groups, and the product further comprises fourteen computer readable program code means for discriminating a group to which a client belongs,

wherein said first computer readable program code means is disabled for a client which belongs to a first
15 group.

50. The computer program product according to claim 43, wherein the clients are classified into a
20 plurality of groups, and the product further comprises fifteen computer readable program code means for discriminating a group to which a client belongs,

wherein said first computer readable program code means is disabled for a client which belongs to a first group, and the second predetermined period is shorter
25 for a client which belongs to a second group than for a client which belongs to a third group.

ABSTRACT

A switching apparatus of a camera server switches
to down-load advertisement for a predetermined period at
5 predetermined intervals while down-loading an image
sensed by a camera, in response to a request for the
image sensed by the camera.

FIG. 1

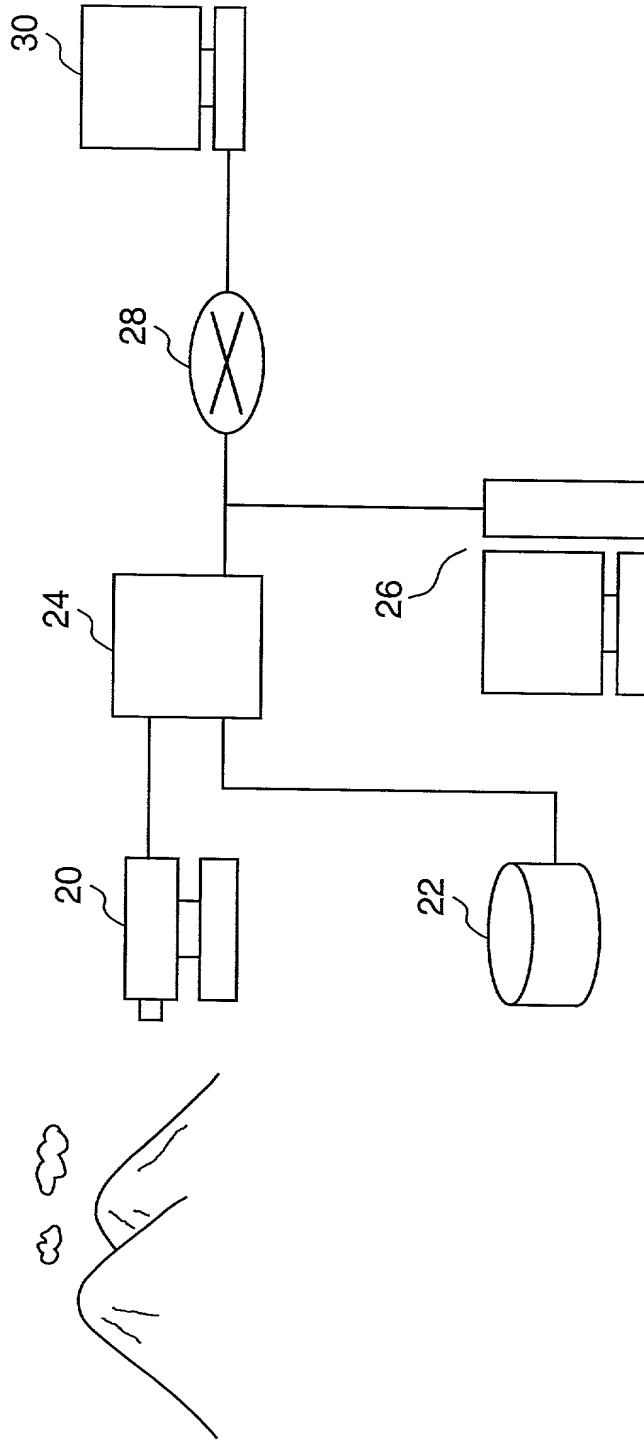


FIG. 2

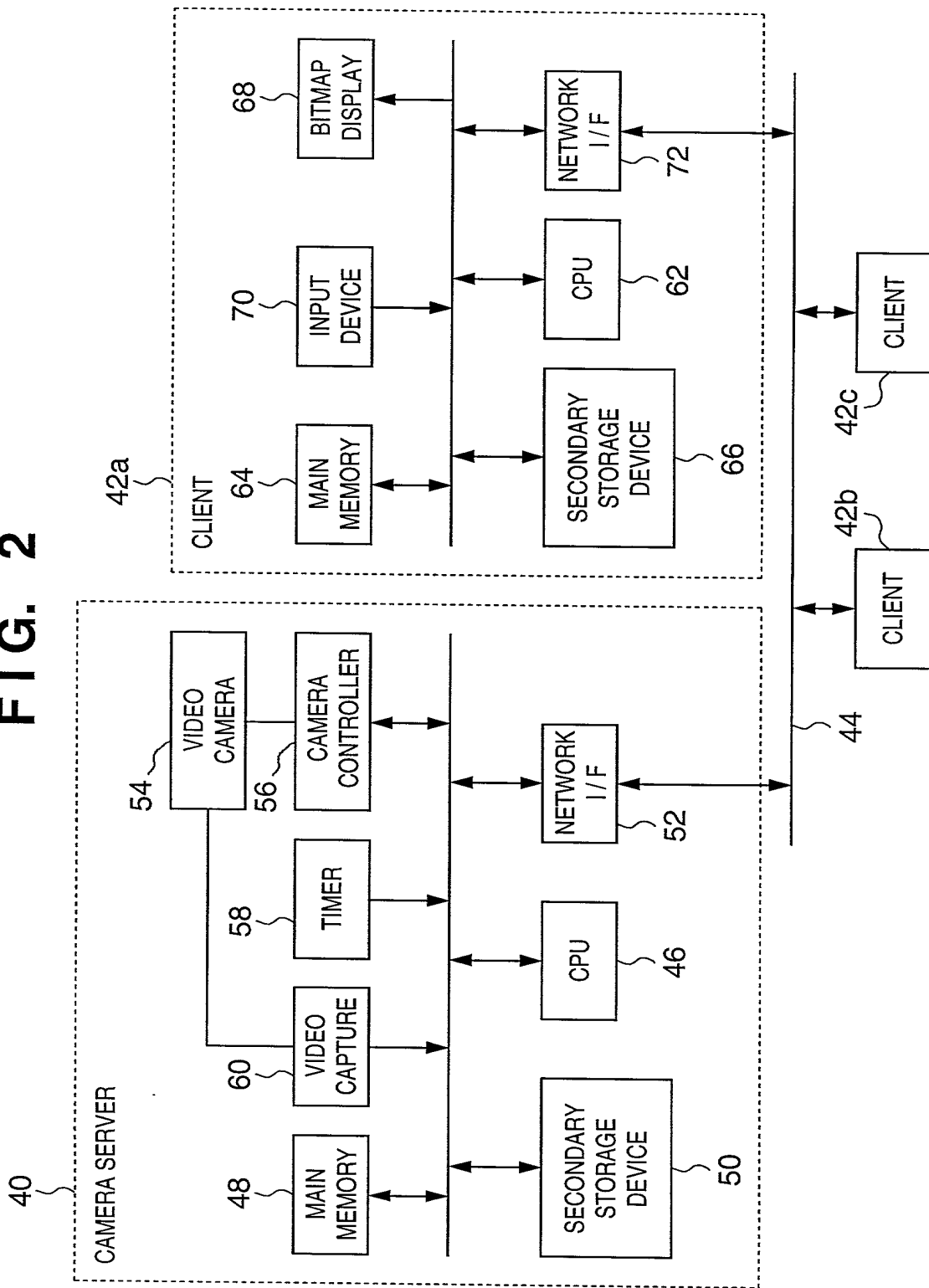


FIG. 3

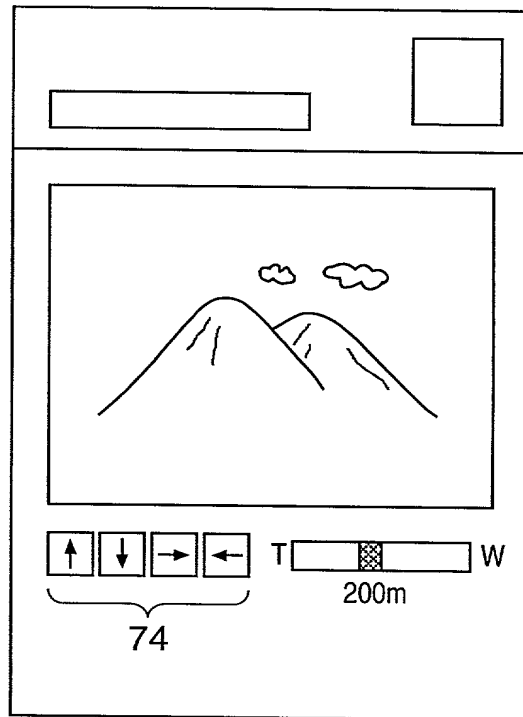


FIG. 4

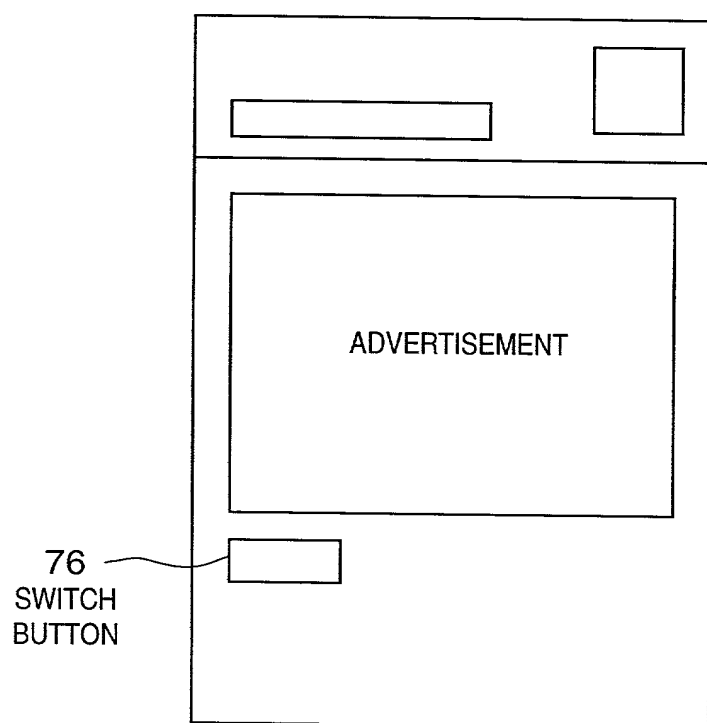


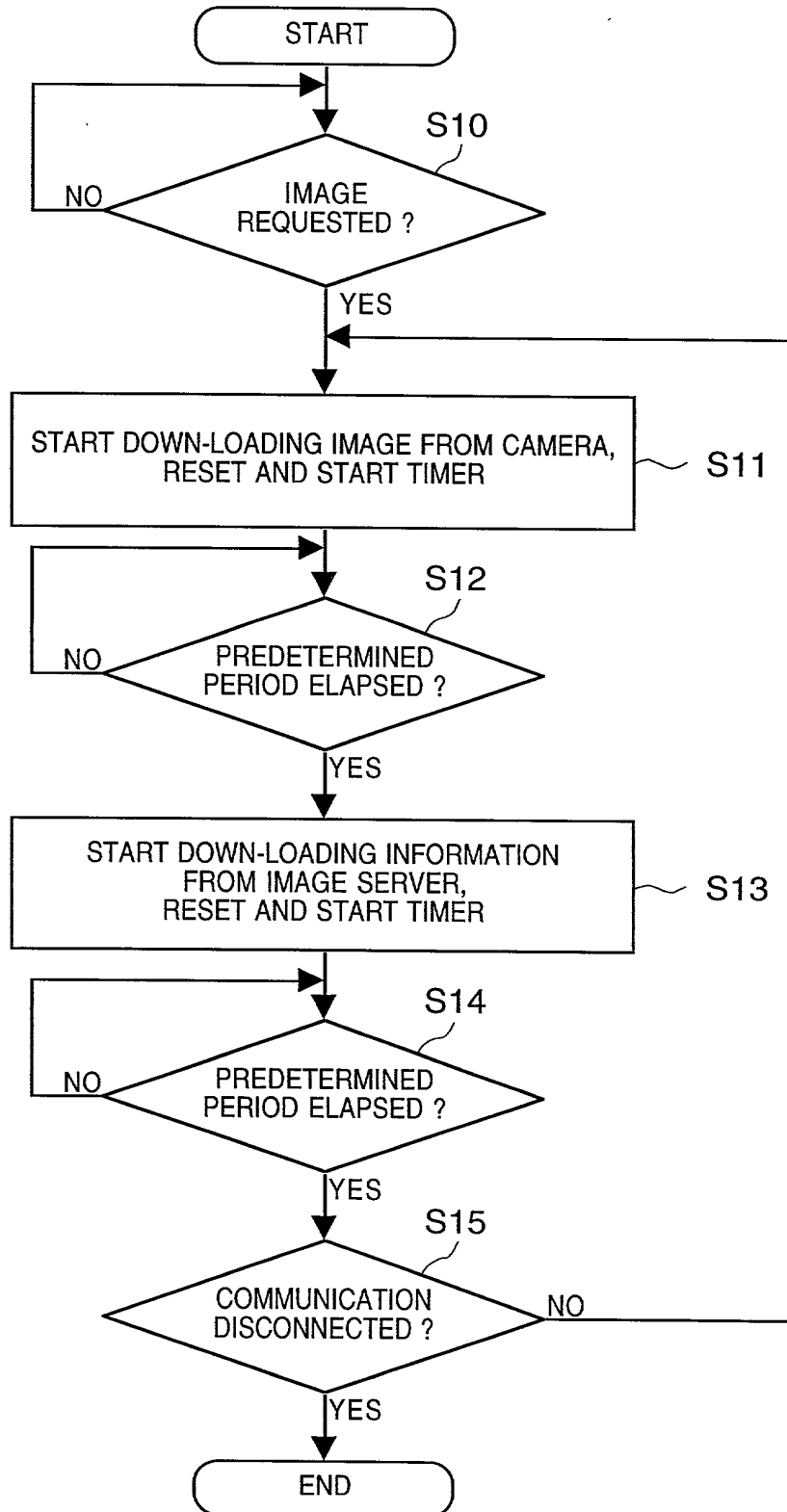
FIG. 5

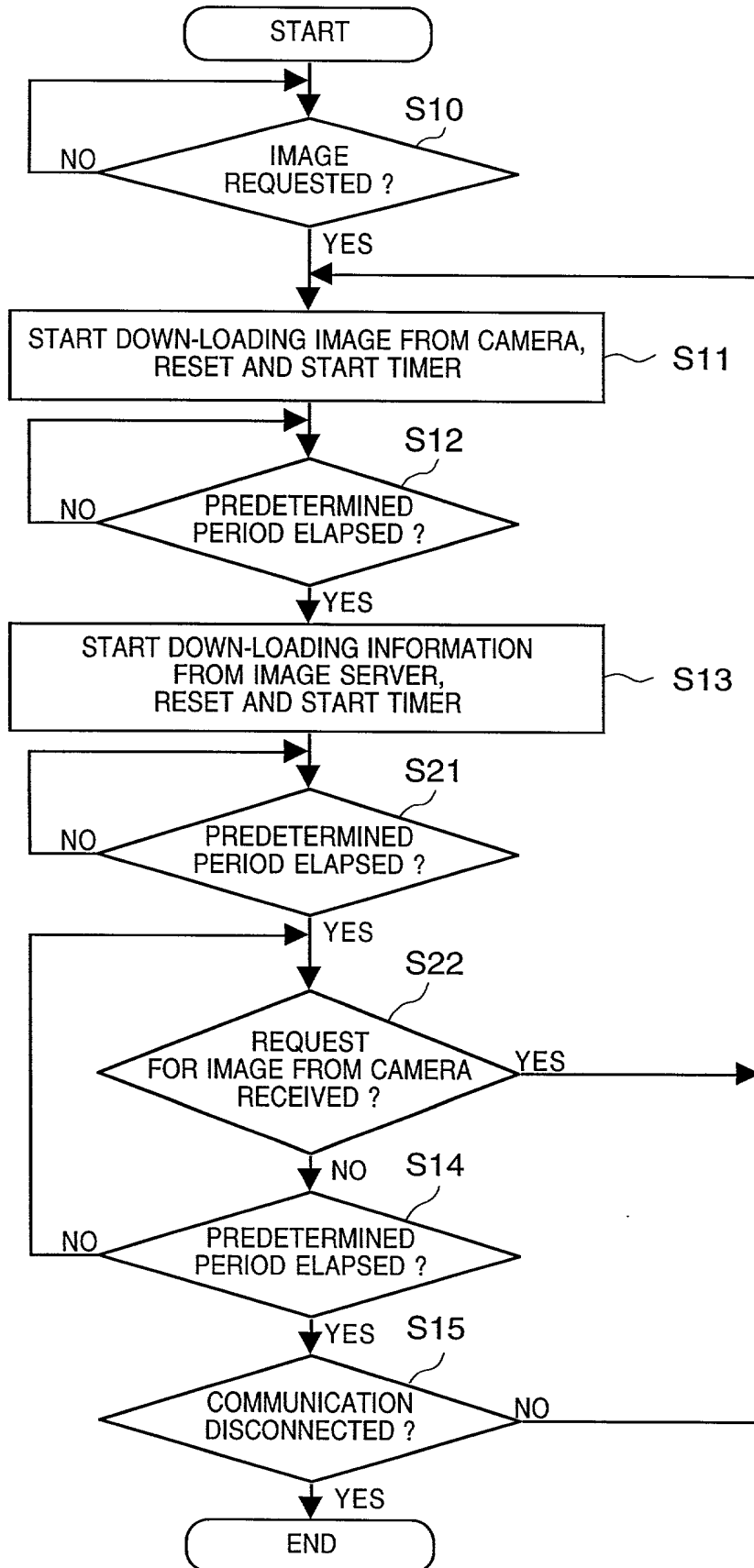
FIG. 6

FIG. 7

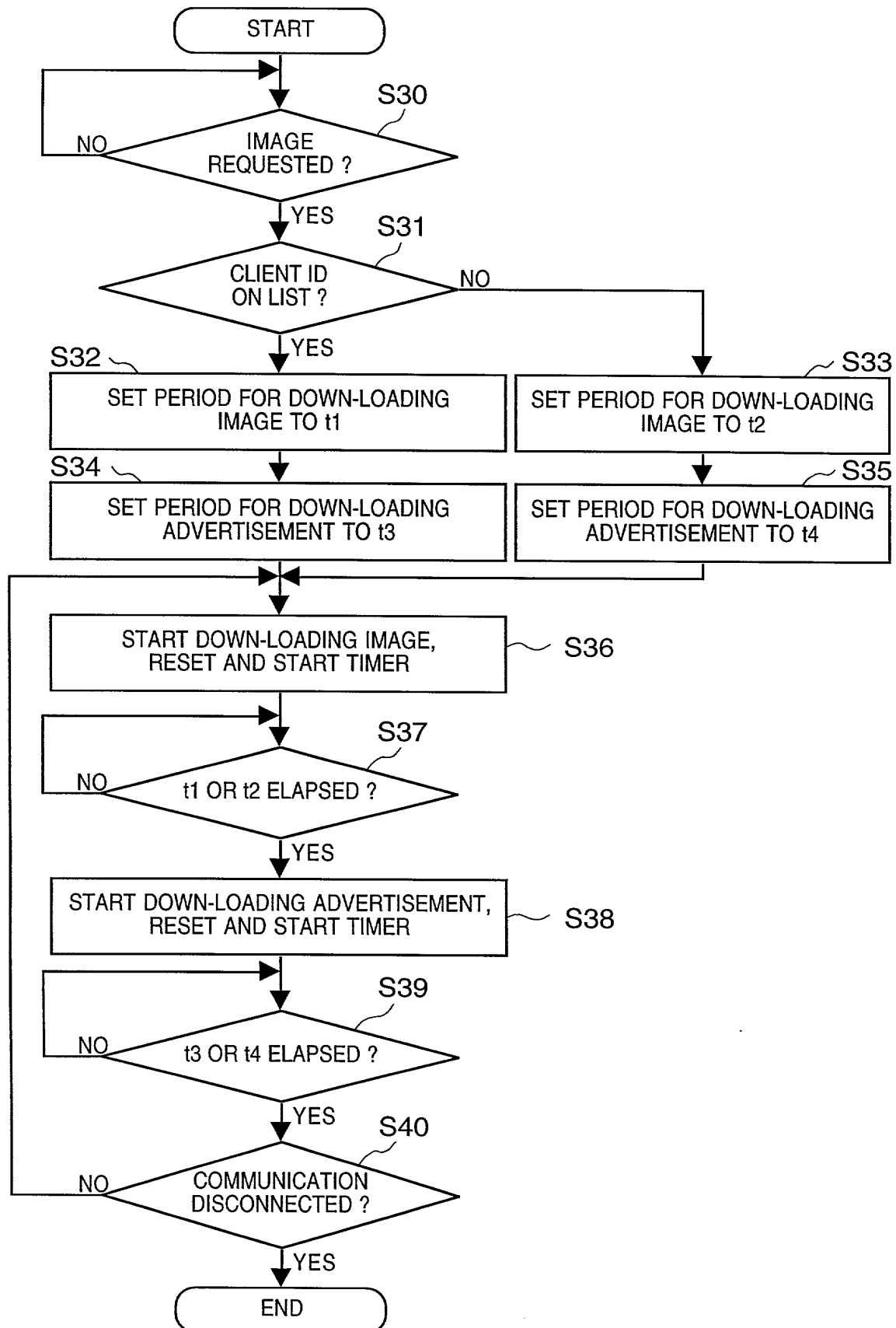
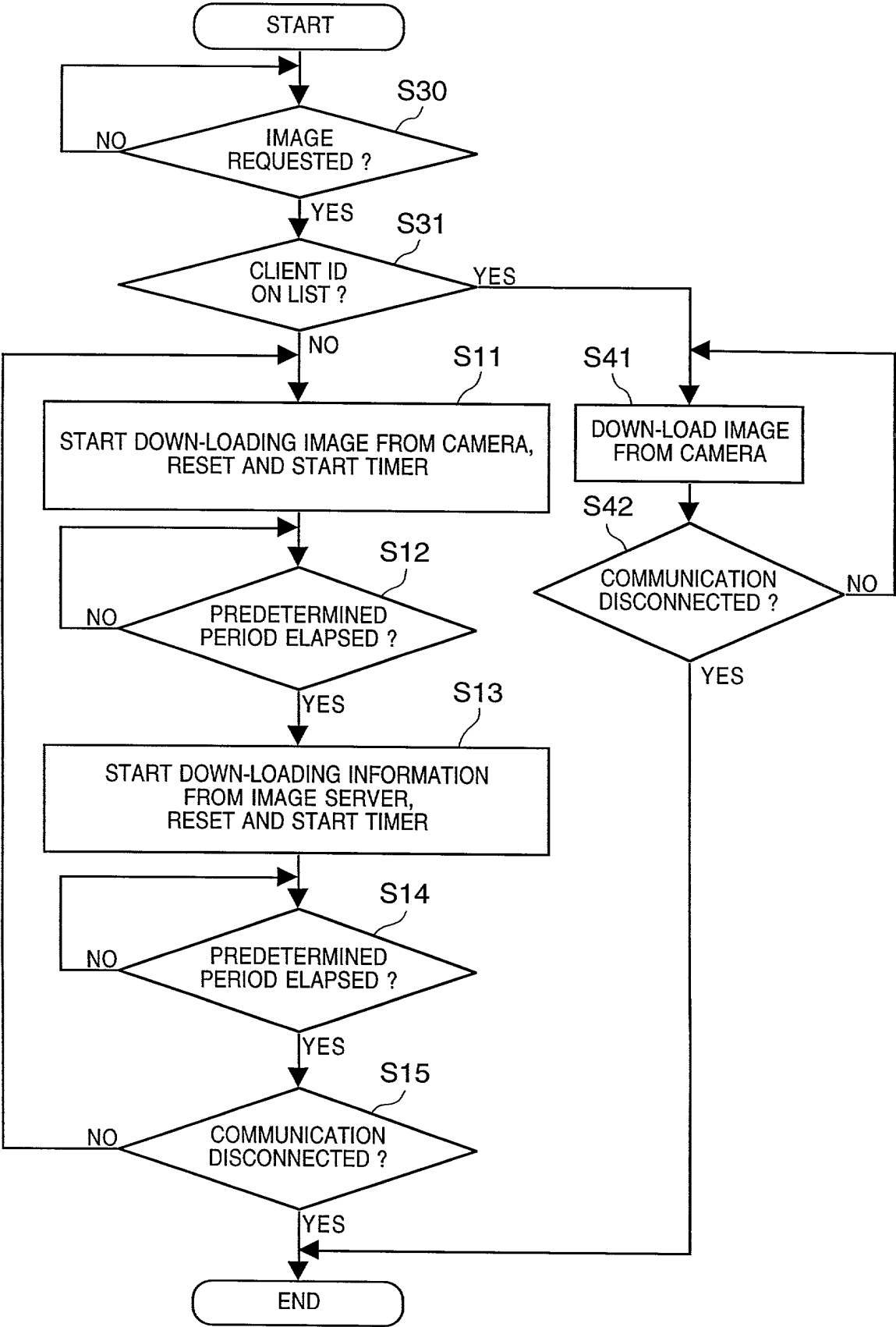


FIG. 8



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FIG. 9

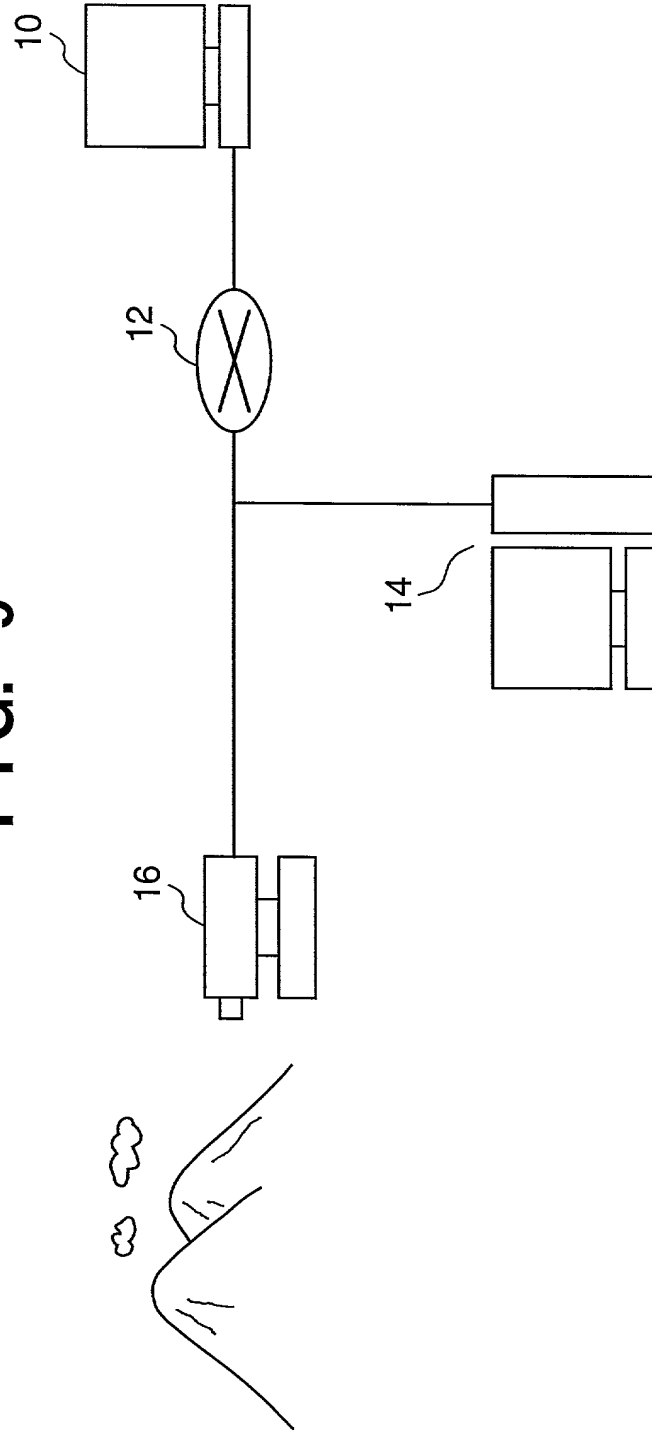


FIG. 10A

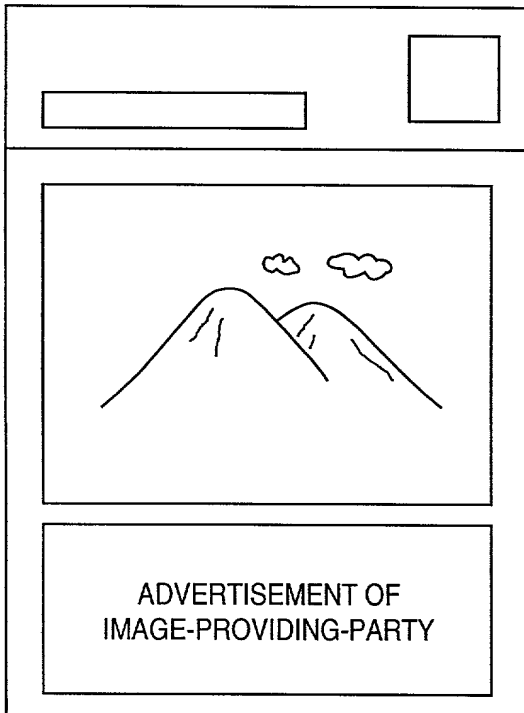
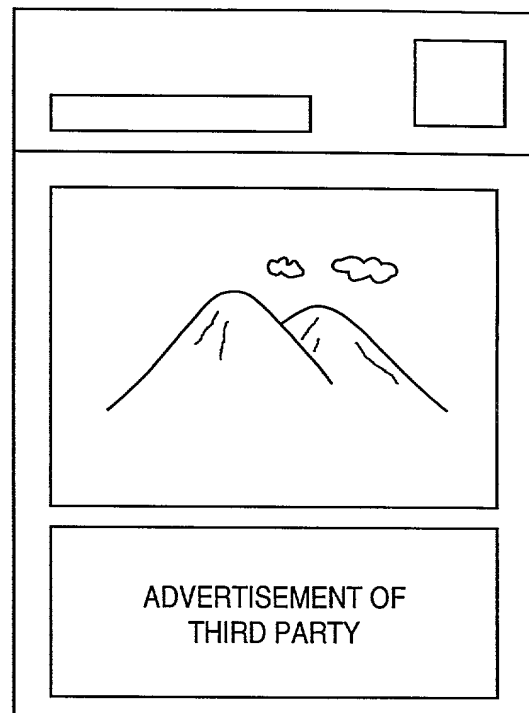


FIG. 10B



COMBINED DECLARATION AND POWER OF ATTORNEY FOR
ORIGINAL , DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL,
DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

IMAGE DOWN-LOADING APPARATUS AND SYSTEM, AND IMAGE DOWN-LOADING
METHOD
the specification of which

a. ☒ is attached hereto

b. ☐ was filed on _____ as application Serial No. _____ and
was amended on _____ (if applicable).

PCT FILED APPLICATION ENTERING NATIONAL STAGE

C. ☐ was described and claimed in International Application No. _____ filed on
_____ and as amended on _____ (if any).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby specify the following as the correspondence address to which all communications about this application are to be directed:

SEND CORRESPONDENCE TO:

MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, N.Y. 10154

DIRECT TELEPHONE CALLS TO: Michael M. Murray
(212) 758-4800

[X] I hereby claim foreign priority benefits under Title 35, United States Code § 119 (a)-(d) or under § 365(b) of any foreign application(s) for patent or inventor's certificate or under § 365(a) of any PCT international application(s) designating at least one country other than the U.S. listed below and also have identified below such foreign application(s) for patent or inventor's certificate or such PCT international application(s) filed by me on the same subject matter having a filing date within twelve (12) months before that of the application on which priority is claimed:

[X] The attached 35 U.S.C. § 119 claim for priority for the U.S. application(s) listed below forms a part of this declaration.

<u>Country/PCT</u>	<u>Application Number</u>	<u>Date of filing (day,month,yr)</u>	<u>Date of issue (day,month,yr)</u>	<u>Priority Claimed</u>
Japan	9-326272	27, 11, 1997		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Japan	10-316578	6, 11, 1998		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
				<input type="checkbox"/> YES <input type="checkbox"/> NO

☐ I hereby claim the benefit under 35 U.S.C. § 119(e) of any U.S. provisional application(s) listed below.

Provisional Application No.

Date of filing (day, month, yr)

ADDITIONAL STATEMENTS FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART
OR PCT INTERNATIONAL APPLICATION(S) DESIGNATING THE U.S.)

I hereby claim the benefit under Title 35, United States Code § 120 of any United States application(s) or under § 365(c) of any PCT international application(s) designating the U.S. listed below.

<u>US/PCT Application Serial No.</u>	<u>Filing Date,</u>	<u>Status (patented, pending, abandoned)/ U.S. application no. assigned (For PCT)</u>

<u>US/PCT Application Serial No.</u>	<u>Filing Date,</u>	<u>Status (patented, pending, abandoned)/ U.S. application no. assigned (For PCT)</u>

☐ In this continuation-in-part application, insofar as the subject matter of any of the claims of this application is not disclosed in the above listed prior United States or PCT international application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or Imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I hereby appoint the following attorneys and/or agents with full power of substitution and revocation, to prosecute this application, to receive the patent, and to transact all business in the Patent and Trademark Office connected therewith: John A. Diaz (Reg. No. 19,550), John C. Vassil (Reg. No. 19,098), Alfred P. Ewert (Reg. No. 19,887), David H. Pfeffer, P.C. (Reg. No. 19,825), Harry C. Marcus (Reg. No. 22,390), Robert E. Paulson (Reg. No. 21,046), Stephen R. Smith (Reg. No. 22,615), Kurt E. Richter (Reg. No. 24,052), J. Robert Dailey (Reg. No. 27,434), Eugene Moroz (Reg. No. 25,237), John F. Sweeney (Reg. No. 27,471), Arnold I. Rady (Reg. No. 26,601), Christopher A. Hughes (Reg. No. 26,914), William S. Feiler (Reg. No. 26,728), Joseph A. Calvaruso (Reg. No. 28,287), James W. Gould

(Reg. No. 28,859), Richard C. Komson (Reg. No. 27,913), Israel Blum (Reg. No. 26,710), Bartholomew Verdirame (Reg. No. 28,483), Maria C. H. Lin (Reg. No. 29,323), Joseph A. DeGirolamo (Reg. No. 28,595), Michael A. Nicodema (Ref. No. 33,199), Michael P. Dougherty (Ref. No. 32,730), Seth J. Altas (Reg. No. 32,454), Andrew M. Riddles (Reg. No. 31,657), Bruce D. DeRenzi (Reg. No. 33,676), Michael M. Murray (Reg. No. 32,537) and Mark J. Abate (Reg. No. 32,527) of Morgan & Finnegan, L.L.P. whose address is: 345 Park Avenue, New York, New York 10154; and Edward A. Pennington (Reg. No. 32,588) of Morgan & Finnegan, L.L.P., whose address is: 1299 Pennsylvania Avenue, N.W., Suite 960, Washington, D.C. 20004.

[] I hereby authorize the U.S. attorneys and/or agents named hereinabove to accept and follow instructions from _____ as to any action to be taken in the U.S. Patent and Trademark Office regarding this application without direct communication between the U.S. attorneys and/or agents and me. In the event of a change in the person(s) from whom instructions may be taken I will so notify the U.S. attorneys and /or agents named hereinabove.

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[] ATTACHED IS ADDED PAGE TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR SIGNATURE BY THIRD AND SUBSEQUENT INVENTORS FORM.

* Before signing this declaration, each person signing must:

1. Review the declaration and verify the correctness of all information therein; and
2. Review the specification and the claims, including any amendments made to the claims.

After the declaration is signed, the specification and claims are not to be altered.

To the inventor(s):

The following are cited in or pertinent to the declaration attached to the accompanying application:

Title 37, Code of Federal Regulation, §1.56

Duty to disclose information material to patentability

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

Title 35, U.S. Code § 101

Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Title 35 U.S. Code § 102

Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless --

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent,
- (b) the invention was patented or described in a printed publication in this or foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other ...

Title 35, U.S. Code § 103

Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Title 35, U.S. Code § 112 (in part)

Specification

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Title 35, U.S. Code, § 119

Benefit of earlier filing date in foreign country; right of priority

An application for patent for an invention filed in this country by any person who has, or whose legal representatives or assigns have, previously regularly filed an application for a patent for the same invention in a foreign country which affords similar privileges in the case of applications filed in the United States or to citizens of the United States, shall have the same effect as the same application would have if filed in this

country on the date on which the application for patent for the same invention was first filed in such foreign country, if the application in this country is filed within twelve months from the earliest date on which such foreign application was filed; but no patent shall be granted on any application for patent for an invention which had been patented or described in a printed publication in any country more than one year before the date of the actual filing of the application in this country, or which had been in public use or on sale in this country more than one year prior to such filing.

Title 35, U.S. Code, § 120

Benefit or earlier filing date in the United States

An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application.

Please read carefully before signing the Declaration attached to the accompanying Application.

If you have any questions, please contact Morgan & Finnegan, L.L.P.

FORM: COMB-DEC.NY

Rev. 1/22/98

04265760